November 19, 1945

Dr. Van R. Potter
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University of Wisconsin
Madison, Wisconsin

Dear Van;

Since you were so directly responsible I thought you would like to know, if you don't already, that I got the grant from the International Cancer Foundation. Let me thank you once again for your kind efforts.

I have been hitting the energy source for enzyme synthesis pretty hard of late using tracers. It wasn't surprising to find that phosphate transfer was critically important in the overall energetics picture of the enzyme formation. Something has however turned up in the last few weeks which I know will interest you immensly. Although the primary energy source is P-bond energy we have strong evidence that it doesn't come from ATP in an immediate sense but from some other nucleotide fraction. Ultimately a certain portion of this energy comes from ATP by transfer to this fraction but the data indicate that this mediation by ATP is not necessary in all cases. We can leave the turnover of the ATP fraction untouched and still prevent enzyme synthesis. We are now trying to find out more about this mysterious fraction.

These experiments have strongly modified my previous views about enzyme synthesis and duplication. It now appears very likely that the source of energy and specificity reside in the same compound which biologically makes sense. However, the whole picture may change radically.

You mentioned some time ago that Umbreit told you that DNP (dinitrophenol) could shunt the endogenous respiration into a fermentative pathway. Is this published anywhere ? I have since confirmed it with my strains and have some data on the P turnover in the presence of DNP which is very suggestive. I would like to include this material in a paper I am writing but would prefer to refer to some reference on the initial observation. I would greatly appreciate any information you can give me on this.

Please give my regards to Drs. Rusch, Cohen, Miller et al.

Sincerely yours,